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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/669,938 | 09/24/2003 | Achintya K. Bhowmik | ITL.I014US (P16650) | 4613 |
| 21906 | 7590 | 03/10/2006 | | EXAMINER |
| TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024 | | | DUPUIS, DEREK L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2883 | |

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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| | | | |
|------------------------------|-----------------------------|----------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/669,938 | BHOWMIK, ACHINTYA K. | |
| | Examiner Derek L. Dupuis | Art Unit 2883 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 February 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-15 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/13/2006 has been entered.

Response to Arguments

2. Applicant has amended the claims to read "variably tuning" and explains in the remarks that this was "contemplated by the examiner". The examiner does not understand what the applicant means by this. In the advisory action, the examiner explained that "the applicant has asserted (see the first line of the last paragraph in the applicant's remarks filed 12/30/05) that the word "tunable" means "variable". Using the broadest reasonable interpretation of the limitation "tunable", switching between two settings would meet this limitation since the system is "adjusted" between two settings.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by *Chien et al (US 2002/0168165, hereinafter "Chien")*.

5. Regarding claims 1-8, Chien teaches a method comprising identifying a first and a second non-zero amount of dispersion in an optical system and applying stress to an optical medium to provide a desired dispersion compensation to the first non-zero amount of dispersion and variably tuning the stress to compensate for the second amount of non-zero dispersion. As discussed in paragraph 41, Chien teaches that a first amount of dispersion can be compensated, and then, based on feedback a second amount is detected and the system is tuned accordingly. This method is further explained in paragraphs 50-52. Chien also teaches generating a corrective dispersion of the opposite polarity of a dispersion inducted in the optical medium; using piezoelectric devices to generate stress in the optical medium; controlling the amount of stress and thereby the desired dispersion compensation by controlling the voltage applied to the piezoelectric device; and securing the photoelastic medium to the piezoelectric device and passing an optical signal through the photoelastic medium (Figs 1-4 and paragraphs 3, 8, 10, 12, 41, 42, 45, 47, 50-52). Chien also discloses a method comprising: securing a photoelastic medium to a piezoelectric device; variably applying a tunable voltage to the piezoelectric device to induce a stress in the photoelastic medium appropriate to tunably correct dispersion generated in an optical system coupled to the photoelastic medium; and controlling the voltage applied to the piezoelectric device to generate a dispersion of substantially the same magnitude and an opposite polarity of the dispersion generated in the optical system (Figs 1-4, and paragraphs 3, 8-10, 12, 41, 42, 45, 47, 50-52). The dispersion compensation is tuned based on the voltage level.

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The voltage is tuned based on the amount of dispersion detected in the medium (see paragraphs 50-52).

6. Regarding claims 9-15, Chien discloses an optical system (400) comprising: an optical medium (305) defining an optical path; a photoelastic material in the optical path; devices (piezoelectric actuators) (307 or 402) that tunably stress the photoelastic medium to variably generate a dispersion of an appropriate polarity and magnitude to correct a dispersion inducted in the optical medium, the piezoelectric actuators are coupled/secured to the photosensitive medium to provide a tunable magnitude and polarity of dispersion to cancel dispersion generated along the optical path by the optical medium (Figs 1-4; and paragraphs 3, 8-10, 12, 41, 42, 45, 47, 50-52). The piezoelectric actuators tunably apply stress so as to tunably control the varying levels of dispersion in the medium (see specifically, paragraphs 50-52).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Friday 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Derek L. Dupuis
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Frank G. Font
Supervisory Patent Examiner
Technology Center 2800